Pre-Installation Manual

Frameworx LCD Interface

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CUSTOMER SERVICE
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Frameworx LCD Interface Unit Pre-Installation Manual

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Reorder Part No. 10-095400-046

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SAFETY

Throughout this publication, "Warnings", and "Cautions" (accompanied by one of the International HAZARD Symbols) are used to alert the mechanic to special instructions concerning a particular service or operation that may be hazardous if performed incorrectly or carelessly. They are defined below. **OBSERVE AND READ THEM CAREFULLY!**

These "Safety Alerts" alone cannot eliminate the hazards that they signal. Strict compliance to these special instructions when performing the service, plus training and "Common Sense" operation are major accident prevention measures.

NOTE or IMPORTANT!: *Will designate significant informational notes.*

WARNING! ***Will designate a mechanical or nonelectrical alert which could potentially cause personal injury or death.***

WARNING! ***Will designate electrical alerts which could potentially cause personal injury or death.***

CAUTION! ***Will designate an alert which could potentially cause product damage.***

Will designate grounding alerts.

SAFETY NOTICE TO USERS OF THIS MANUAL

This manual has been written and published by the Service Department of Brunswick Bowling and Billiards to aid the reader when servicing or installing the products described.

It is assumed that these personnel are familiar with, and have been trained in, the servicing or installation procedures of these products, which includes the use of common mechanic's hand tools and any special Brunswick or recommended tools from other suppliers.

We could not possibly know of and advise the reader of all conceivable procedures by which a service might be performed and of the possible hazards and/or results of each method. We have not attempted any such wide evaluation. Therefore, anyone who uses a service procedure and/or tool, which is not recommended by Brunswick, must first completely satisfy himself that neither his nor the products safety will be endangered by the service procedure selected.

All information, illustrations and specifications contained in this manual are based on the latest product information available at the time of publication.

It should be kept in mind, while working on the product, that the electrical system is capable of violent and damaging short circuits or severe electrical shocks. When performing any work where electrical terminals could possibly be grounded or touched by the mechanic, the power to the product should be disconnected prior to servicing and remain disconnected until servicing is complete.

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SITE SURVEY

This site survey is to be completed by the sales team before order submission.

1. Verify the type of "Remote Video Board" the center has. There are two locations the "Remote Video Boards" can be located, in the Lane Group Processor (LGP) or the shaver console. Refer to *Figures 1 & 2.* The LGP is located on the curtain wall. If there is not an LGP then the "Remote Video Board" is located inside the shaver scoring console.

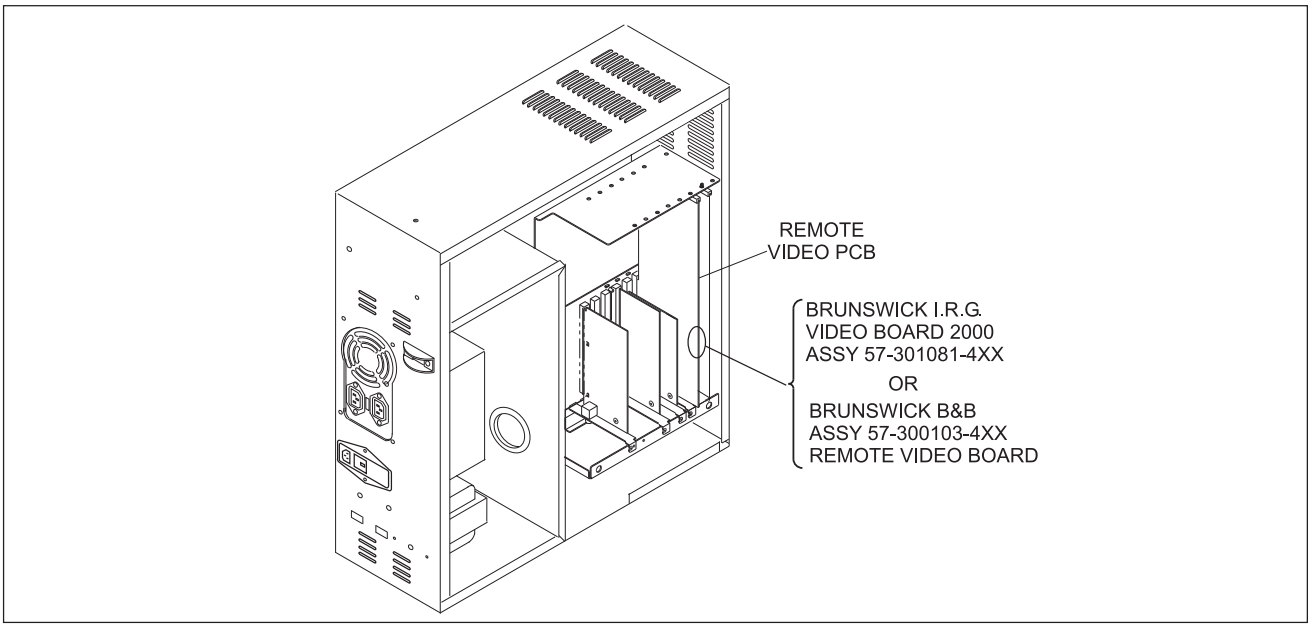


Figure 1. Lane Group Processor Remote Video Board Location

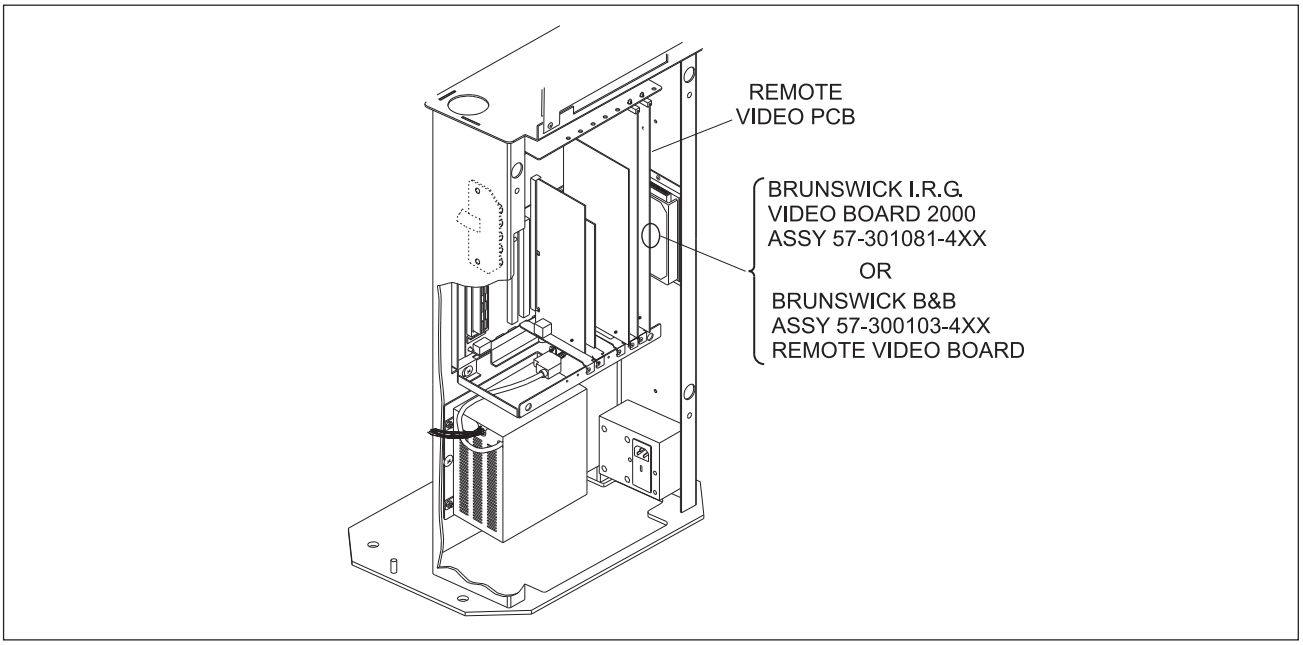


Figure 2. Shaver Console Remote Video Processor

2. Refer to *Figures 1* and *2* for the location of the "Remote Video Board" part number.

IMPORTANT! *The "Remote Video Boards" do not have to be removed to identify the part number.*

a. Does the center have video board, part number 57-300103-4xx? _____
b. Does the center have the 2000 video board, part number 57-301081-4xx? _____
c. Does the center have both video boards? _____

NOTE: *Check **ALL** Lane Group Processors or if they do not have any Lane Group Processors, shaver scoring consoles will need to be checked for the type of video boards*

NOTE: *If the center does not have any existing overheads and would like to add LCD overheads, an exception request will need to be processed*

3. What type of Frameworx LCD upgrade will be ordered?

Description	Guidance	Model No.	QTY
FX LCD UPGRADE 32" SAMSUNG FOR ALL MARKETS INCLUDING ASIA EXCEPT EUROPE	Per monitor	E3-300434-032	
FX LCD UPGRADE 40" SAMSUNG FOR ALL MARKETS INCLUDING ASIA EXCEPT EUROPE	Per monitor	E3-300434-040	
FX LCD UPGRADE 46" SAMSUNG FOR ALL MARKETS INCLUDING ASIA EXCEPT EUROPE	Per monitor	E3-300434-046	
FX LCD UPGRADE 32" SAMSUNG FOR EUROPE	Per monitor	E3-300435-032	
FX LCD UPGRADE 40" SAMSUNG FOR EUROPE	Per monitor	E3-300435-040	
FX LCD UPGRADE 46" SAMSUNG FOR EUROPE	Per monitor	E3-300435-046	

NOTE: *Model Number includes Samsung monitor, electronics, and mounting bracket.*

IMPORTANT: *The customer's responsiblity to provide a quantity of **three** IG outlets for the Frameworx LCD Interface. One for each component: Frameworx LCD Interface, S-video to VGA convertor, and the LCD overhead.*

NOTE: *The customers are **NOT** allowed to provide their own LCD overhead.*

NOTE: *All electronics are capable of 120/230 volts and 50/60 hertz.*

4. Does the center have TV-Only monitors currently installed?

If No, skip to question 4.

a. Does the center want to turn the TV-only monitor on or off from the front desk?

i. If yes, then the FX LCD upgrade is required; specify the appropriate number of FX LCD upgrade tab codes needed for TV-Only monitors.

ii. If No, see part c.

b. Does the center want to use the existing AV Box?

i. If yes, then the FX LCD upgrade is required; specify the appropriate number of FX LCD upgrade tab codes needed for TV-Only monitors.

ii. If No, see part c.

c. Centers willing to control the TV-only monitors with a remote control can purchase a VCR and run new composite video cable from the VCR to the TV-only monitors will not need to purchase the LCD Interface. They can simply purchase LCD monitors.

NOTE: *The customer is responsible to purchase and install all equipment for TV-only monitors*

5. **ONLY** applies if Question 3 is no. The customer does not have TV-Only with Frameworx. Does the customer want to add TV-Only monitors?

If No, skip to question 5.

a. If Yes, centers will **NOT** be able to turn the TV-only monitor on or off from the front desk. Centers willing to control the TV-only monitors with a remote control can purchase a VCR and run new composite video cable from the VCR to the TV-only monitors will not need to purchase the LCD Interface. They can simply purchase LCD monitors.

Description	Guidance	Package #	QTY
32" SAMSUNG FOR ALL MARKETS INCLUDING ASIA EXCEPT EUROPE	Per monitor	57-863035-000	
40" SAMSUNG FOR ALL MARKETS INCLUDING ASIA EXCEPT EUROPE	Per monitor	57-863355-000	
46" SAMSUNG FOR ALL MARKETS INCLUDING ASIA EXCEPT EUROPE	Per monitor	57-863364-000	
32" SAMSUNG FOR EUROPE	Per monitor	57-863363-000	
40" SAMSUNG FOR EUROPE	Per monitor	57-863368-000	
46" SAMSUNG FOR EUROPE	Per monitor	57-863369-000	
Hanging Brackets	Per Monitor	57-863325-000	

NOTE: *"Samsung for all markets except Europe" packages will be supplied with a USA power cord from Brunswick. If the Samsung monitor is purchased for another country besides USA then the correct power cord or power adapter will have to be purchased by the customer.*

6. What type of front desk does the center have?
   a. Command Network _____
   b. Center Master _____
   c. Vector Plus _____

7. What version of Frameworx scorer software does the customer have? _____

NOTE: *Command Network must have Frameworx scorer software version 5.6. Vector Plus and Centermaster must have Frameworx scorer software version 6.3. If the customer does not have the proper software, please contact the CRC on behalf of the customer to obtain these disks. Provide this site survey to the CRC.*

IMPORTANT: *The customer is responsible to provide a quantity of* ***three*** *IG outlets prer LCD overhead for the Frameworx LCD Interface. One for each component: Frameworx LCD Interface, S-video to VGA convertor, and the LCD overhead.*

8. The LCD overheads require different electrical requirements than the old CRT overheads. Please review the information below with the customer to inform them of their additional electrical responsibilities.
   a. Isolated Ground (IG) outlet is required for the LCD Overhead.

   b. Isolated Ground (IG) outlet is required for the S-video to VGA convertor.

   c. Isolated Ground (IG) outlet is required for the Frameworx LCD Interface.

   d. Three power outlets are required for Frameworx LCD Interface, S-video to VGA convertor, and the LCD overhead.

   e.

LCD WITH INTERFACE ELECTRONICS	TOTAL AMPERAGE PERE ONE OVERHEAD (120/230 VOLT)
32" LCD	2.5/1.5
40" LCD	3.5/1.75
46" LCD	4.0/2.0

9. What is the ceiling height, from the lane surface over the approach area where monitors will be located? _____
   a. For 32" LCD we recommend 10’-6" (3.2m) ceiling heights, minimum of 9’-6" (2.9m).

   b. For 40" LCD we recommend 10’-10" (3.3m) ceiling heights, minimum of 9’-10" (3.0m).

   c. For 46" LCD we recommend 11’-1" (3.4m) ceiling heights, minimum of 10’-1" (3.1m).

NOTE: *The LCD monitor may be installed with ceilings lower than the minimum ceiling height distance, but the customer should be aware the height from the lane to the bottom of the monitor would be less than 89."*

IMPORTANT!: The site survey and overhead certificate must be completed and sent to Contract Management before the contract can be approved and shipped.

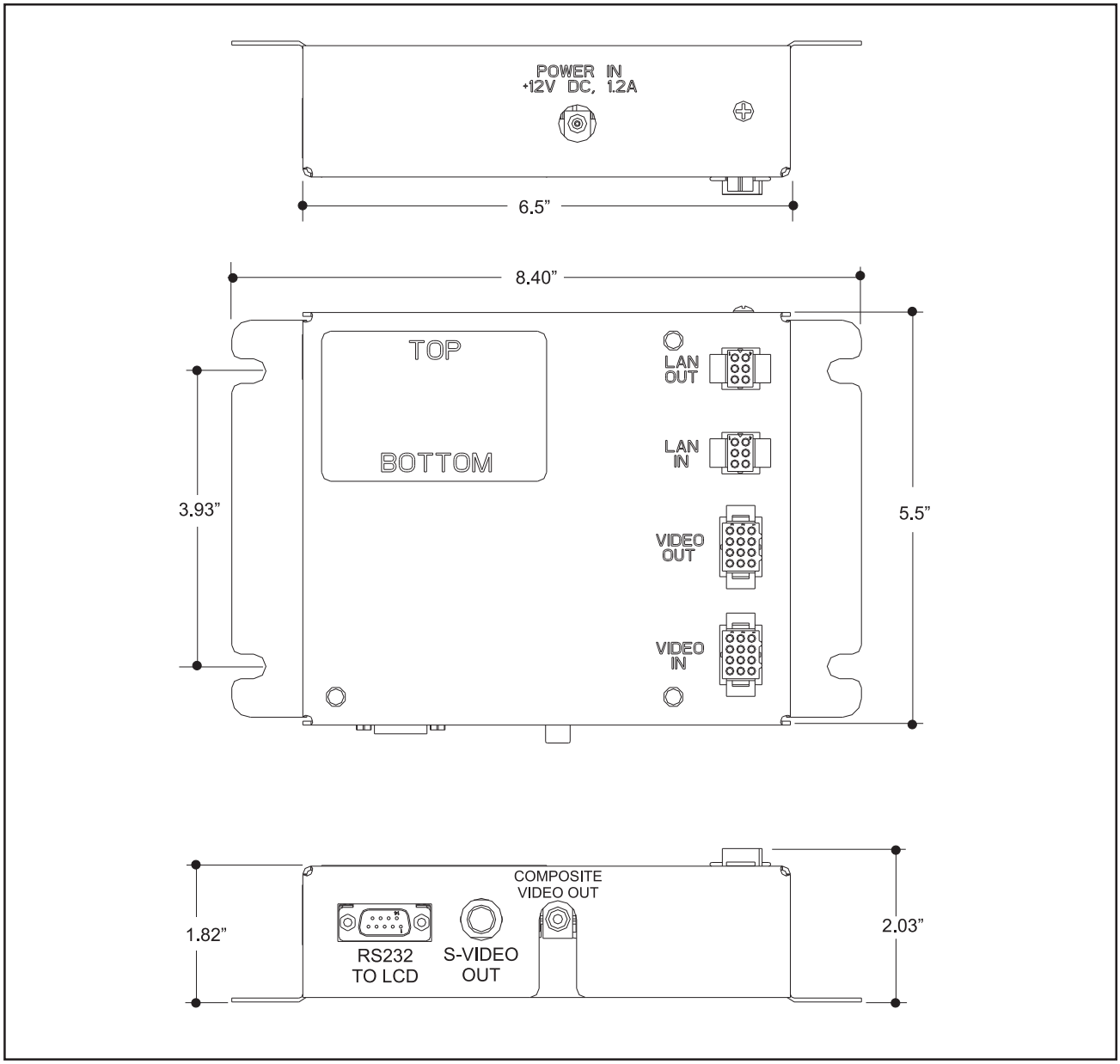


Figure 3. Frameworx to LCD Interface (P/N 57-863349-400)

INTERFACE POWER SUPPLY PREINSTALLATION

Electrical Information						
Volts	Hertz	AC/DC	Phase	Amps Per Unit	Watts	Customer Responsibility
100-130 200-240	50/60	AC	1	0.5@120V 0.25@240V	60	Install circuit with 120V No more than 32 per 20 Amp circuit Install circuit with 230V No more than 52 per 16 Amp circuit

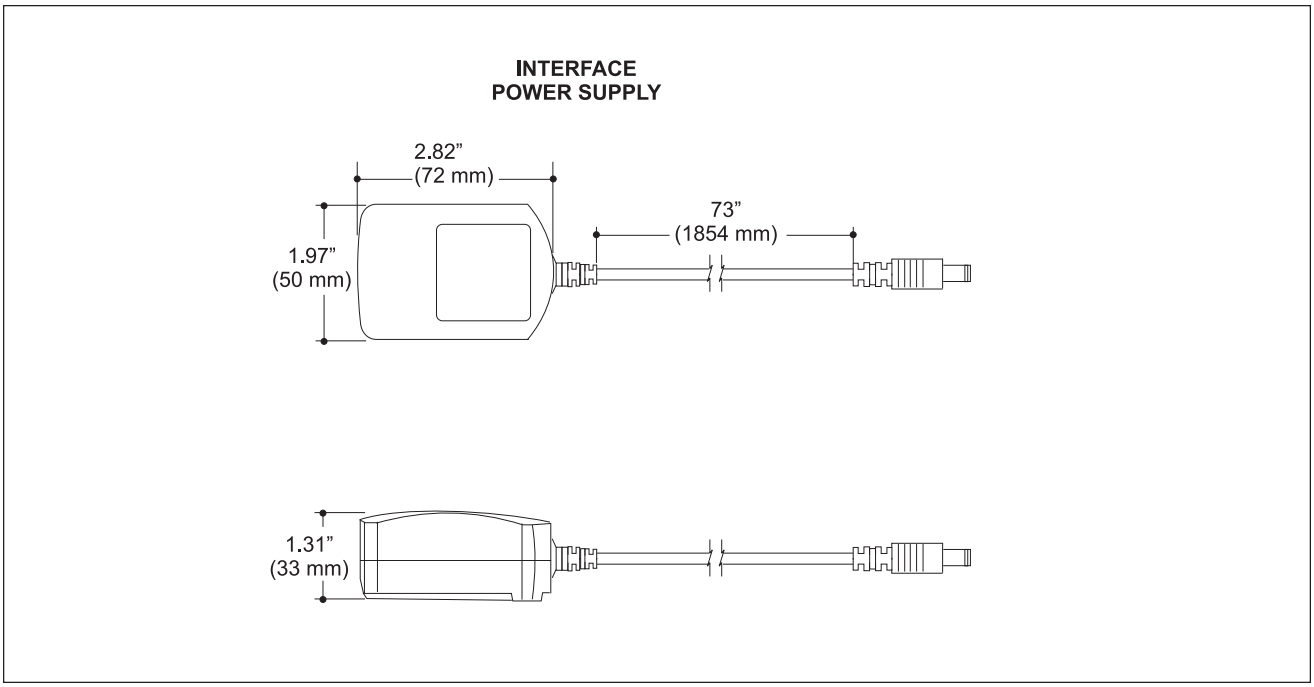


Figure 4. Frameworx to LCD Interface Power Supply (P/N 57-861995-000)

IMPORTANT: *The customer is responsible to provide a quantity of* ***three*** *IG outlets for the Frameworx LCD Interface. One for each component: Frameworx LCD Interface, S-video to VGA convertor, and the LCD overhead.*

S-VIDEO TO VGA CONVERTER OVERVIEW

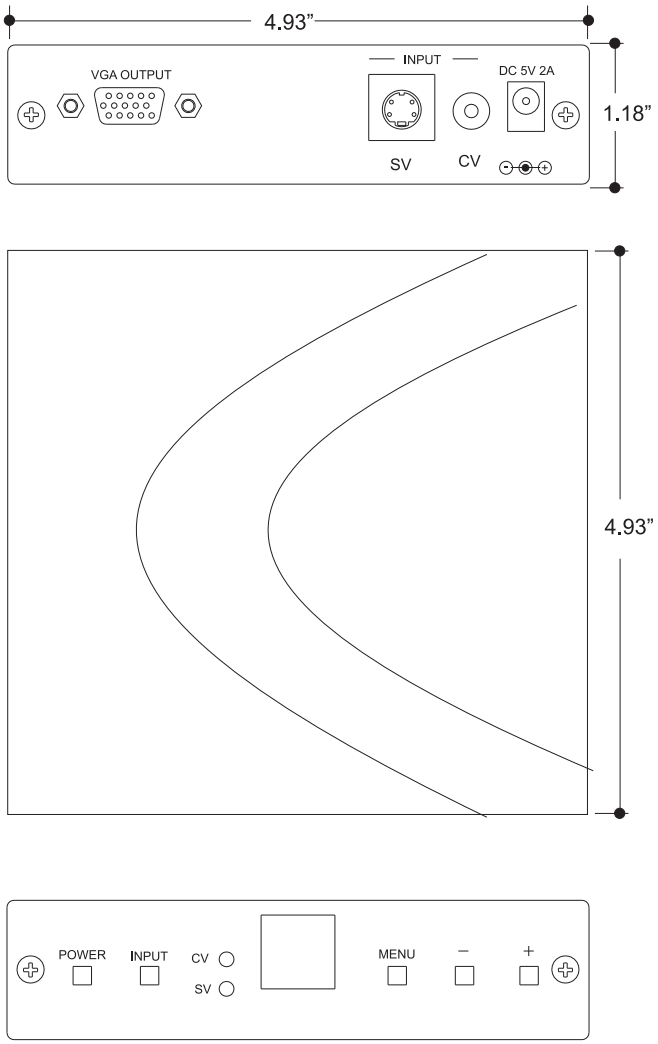


Figure 5. S-Video to VGA Converter (P/N 57-301195-000)

S-VIDEO TO VGA CONVERTER POWER SUPPLY PREINSTALLATION

Electrical Information						
Volts	Hertz	AC/DC	Phase	Amps Per Unit	Watts	Customer Responsibility
100-130 200-240	50/60	AC	1	0.5@120V 0.25@240V	60	Install circuit with 120V No more than 32 per 20 Amp circuit Install circuit with 230V No more than 52 per 16 Amp circuit

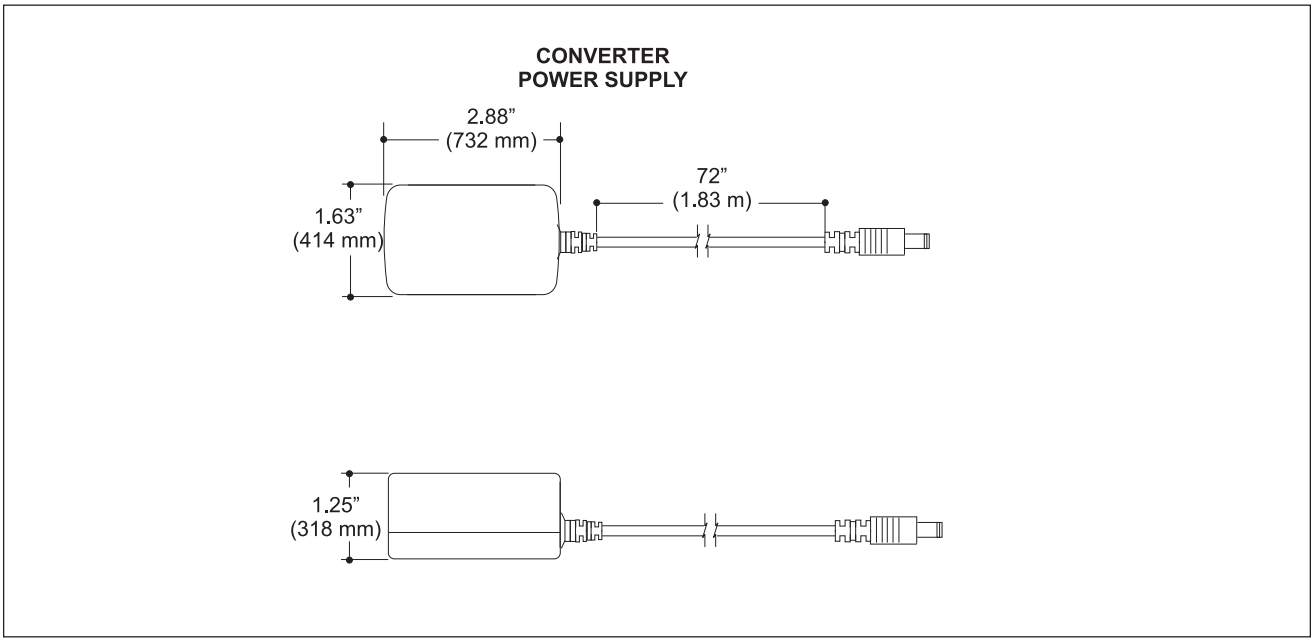


Figure 6. S-Video to VGA Converter Power Supply (P/N 57-861955-000)

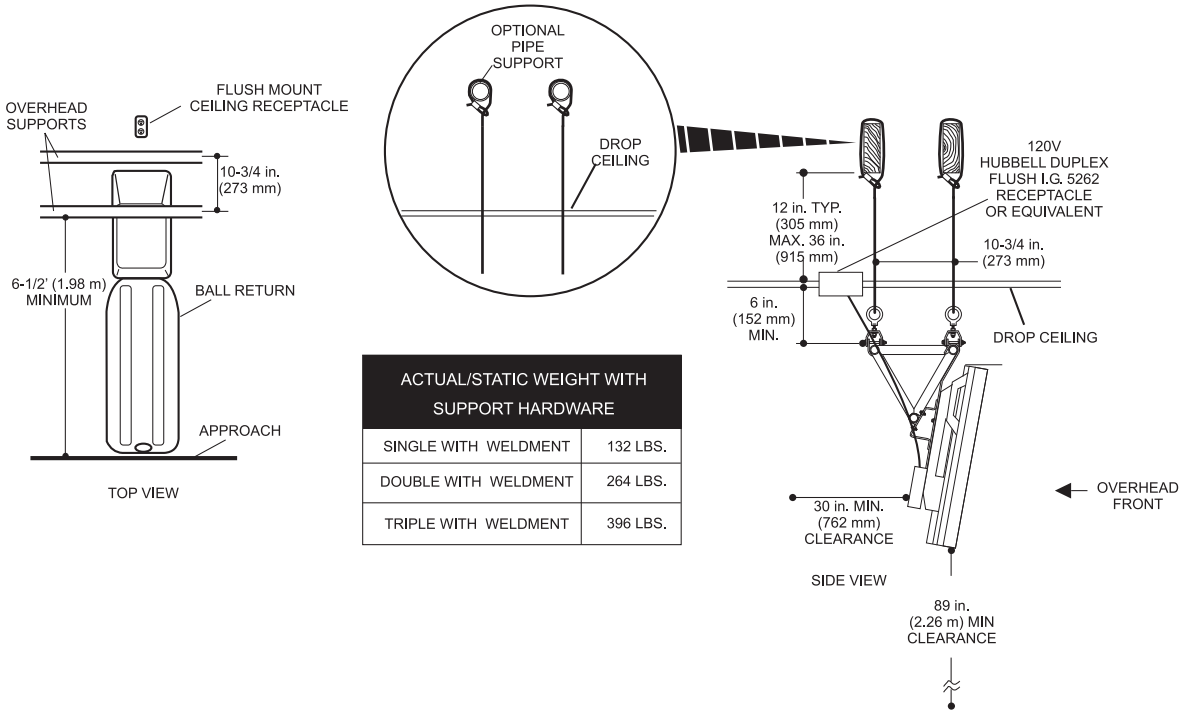
IMPORTANT: *The customer is responsible to provide a quantity of* ***three*** *IG outlets for the Frameworx LCD Interface. One for each component: Frameworx LCD Interface, S-video to VGA convertor, and the LCD overhead.*

32" WIDE SCREEN LCD MONITOR WITH FRAMEWORX LCD INTERFACE

All Scoring Systems

Electrical Information							
Volts	Hertz	AC/DC	Phase	Amps * Per Unit	Watts	Branch Circuit	Customer Responsibility
100-130	50/60	AC	1	2.5 @ 120 V	300	2 Wires + Isolated Ground	Install circuit with 120 Volt Hubbell I.G. 5262 receptacle or equivalent. No more than 5 LCD overheads per 20 amp circuit.
200-240	50/60	AC	1	1.25 @ 240V	300	2 Wires + Isolated Ground	Install circuit with appropriate I.G. receptacle No more than 10 LCD overheads per 16 amp circuit.

** **NOTE:** Amps per circuit includes the LCD monitor and Frameworx LCD Interface electronics.*



ACTUAL/STATIC WEIGHT WITH SUPPORT HARDWARE	
SINGLE WITH WELDMENT	132 LBS.
DOUBLE WITH WELDMENT	264 LBS.
TRIPLE WITH WELDMENT	396 LBS.

Installation Information

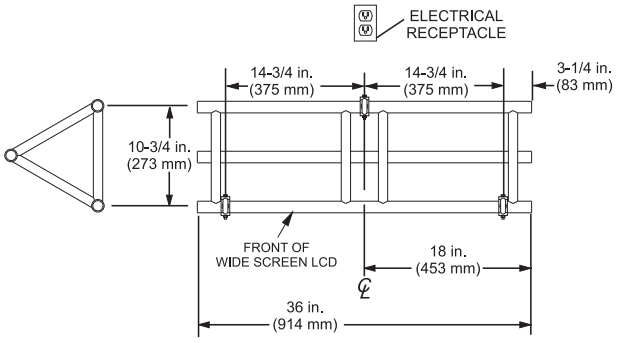
Customer Responsibility: Using the preferred method of support, the overhead is to be suspended from beams which are supported from roof trusses. The I.G. receptacle is to be installed flush with the ceiling and located near the rear suspension wire on the center line of a pair of lanes. The customer is responsible for supplying, installing, and maintaining the proper position of the support beams or pipe. The customer is also responsible for having the structure certificate form completed by an architect or structural engineer. The method of support must be capable of supporting 396 pounds actual/static load per lane pair.

NOTE: If support beams are installed, they must be as straight as possible. Any variation in the support will affect overhead positioning.

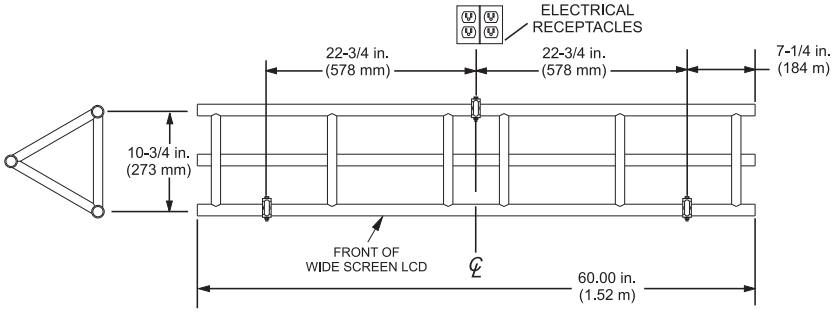
32" WIDE SCREEN LCD MONITOR WITH FRAMEWORX LCD INTERFACE

All Scoring Systems

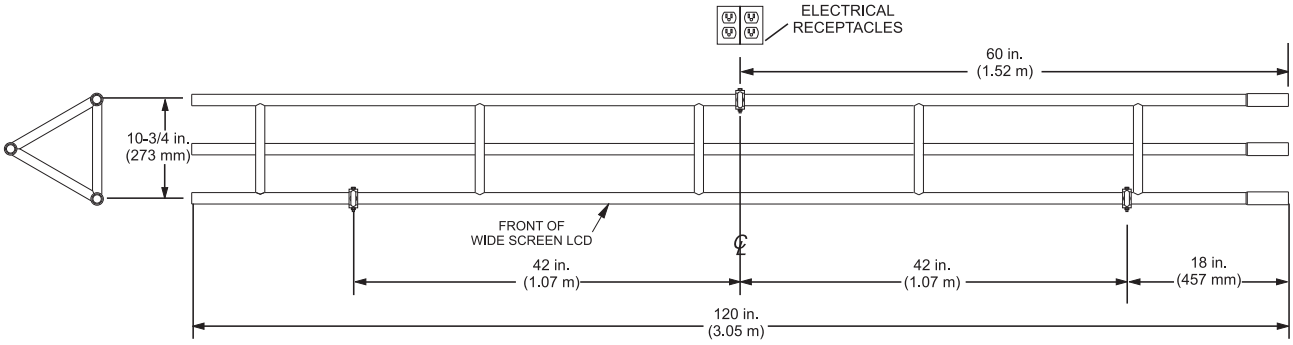
TOPVIEW



SINGLE



DOUBLE



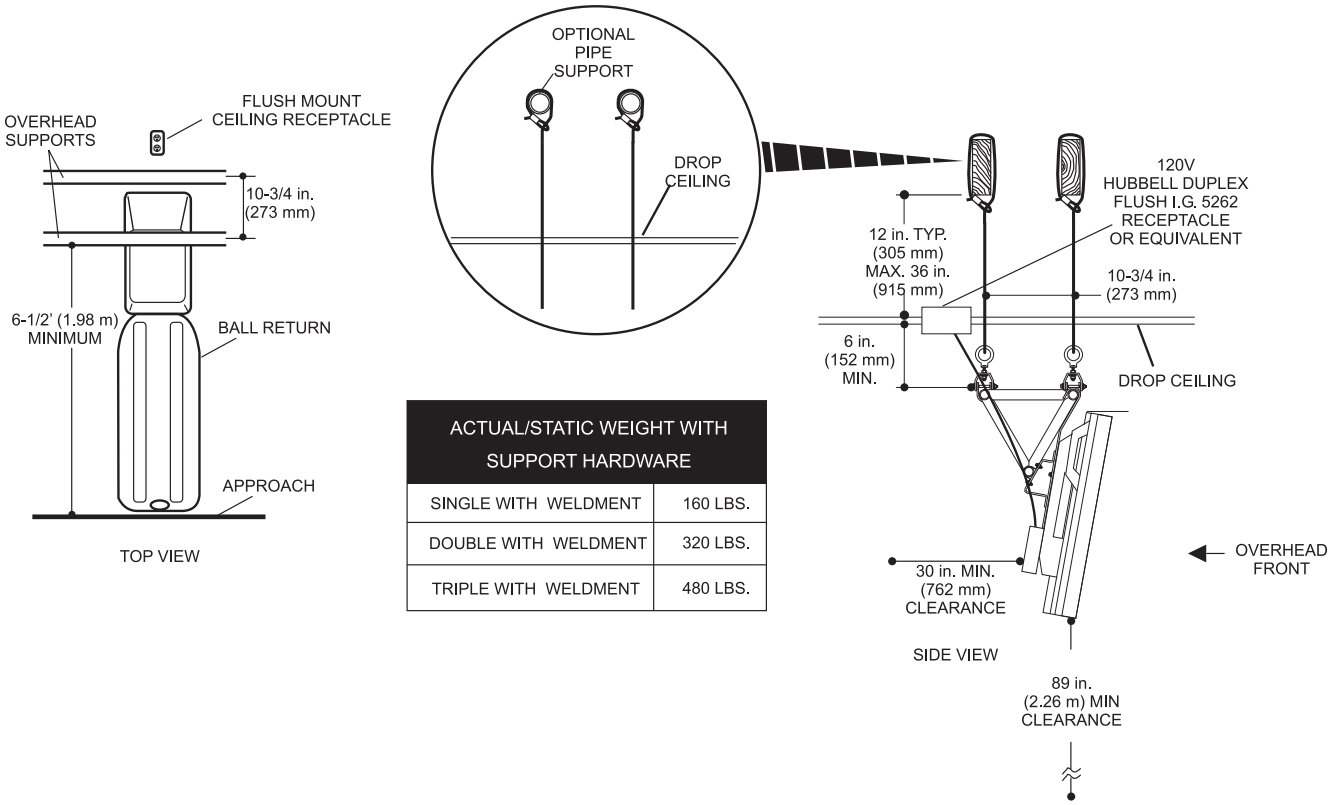
TRIPLE

40" WIDE SCREEN LCD MONITOR WITH FRAMEWORX LCD INTERFACE

All Scoring Systems

Electrical Information							
Volts	Hertz	AC/DC	Phase	Amps * Per Unit	Watts	Branch Circuit	Customer Responsibility
100-130	50/60	AC	1	3.5 @ 120 V	420	2 Wires + Isolated Ground	Install circuit with 120 Volt Hubbell I.G. 5262 receptacle or equivalent. No more than 4 LCD overheads per 20 amp circuit.
200-240	50/60	AC	1	1.75 @ 240 V	420	2 Wires + Isolated Ground	Install circuit with appropriate I.G. receptacle No more than 6 LCD overheads per 16 amp circuit.

**** NOTE:** Amps per circuit includes the LCD monitor and Frameworx LCD Interface electronics.*



ACTUAL/STATIC WEIGHT WITH SUPPORT HARDWARE	
SINGLE WITH WELDMENT	160 LBS.
DOUBLE WITH WELDMENT	320 LBS.
TRIPLE WITH WELDMENT	480 LBS.

Installation Information

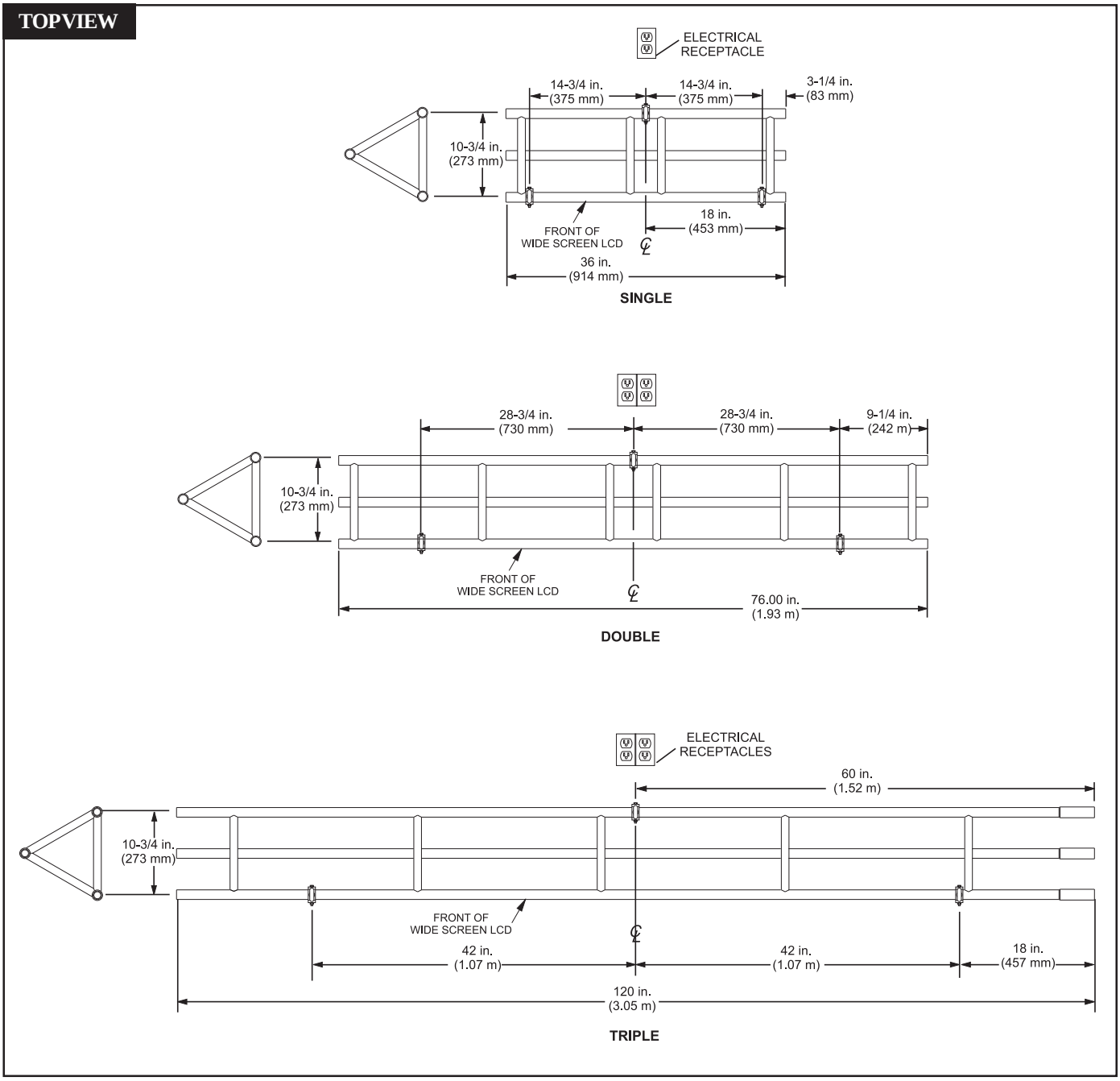
Customer Responsibility: Using the preferred method of support, the overhead is to be suspended from beams which are supported from roof trusses. The I.G. receptacle is to be installed flush with the ceiling and located near the rear suspension wire on the center line of a pair of lanes. The customer is responsible for supplying, installing, and maintaining the proper position of the support beams or pipe. The customer is also responsible for having the structure certificate form completed by an architect or structural engineer. The method of support must be capable of supporting 480 pounds actual/static load per lane pair.

NOTE: If support beams are installed, they must be as straight as possible. Any variation in the support will affect overhead positioning.

40" WIDE SCREEN LCD MONITOR WITH FRAMEWORX LCD INTERFACE

All Scoring Systems

TOPVIEW

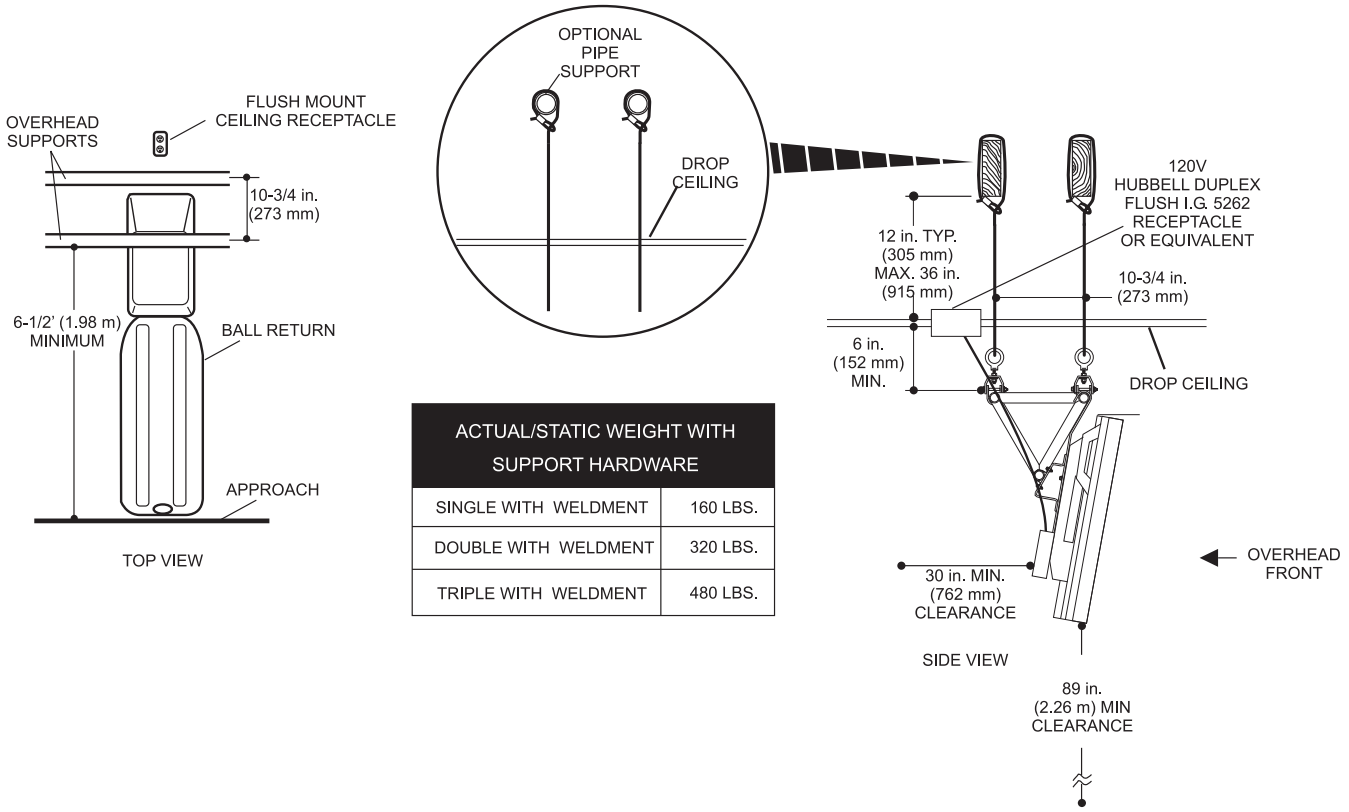


46" WIDE SCREEN LCD MONITOR WITH FRAMEWORX LCD INTERFACE

All Scoring Systems

Electrical Information							
Volts	Hertz	AC/DC	Phase	Amps * Per Unit	Watts	Branch Circuit	Customer Responsibility
100-130	50/60	AC	1	4 @ 120 V	480	2 Wires + Isolated Ground	Install circuit with 120 Volt Hubbell I.G. 5262 receptacle or equivalent. No more than 3 LCD overheads per 20 amp circuit.
200-240	50/60	AC	1	2 @ 240 V	480	2 Wires + Isolated Ground	Install circuit with appropriate I.G. receptacle No more than 6 LCD overheads per 16 amp circuit.

**** NOTE:** Amps per circuit includes the LCD monitor and Frameworx LCD Interface electronics.*



ACTUAL/STATIC WEIGHT WITH SUPPORT HARDWARE	
SINGLE WITH WELDMENT	160 LBS.
DOUBLE WITH WELDMENT	320 LBS.
TRIPLE WITH WELDMENT	480 LBS.

Installation Information

Customer Responsibility: Using the preferred method of support, the overhead is to be suspended from beams which are supported from roof trusses. The I.G. receptacle is to be installed flush with the ceiling and located near the rear suspension wire on the center line of a pair of lanes. The customer is responsible for supplying, installing, and maintaining the proper position of the support beams or pipe. The customer is also responsible for having the structure certificate form completed by an architect or structural engineer. The method of support must be capable of supporting 480 pounds actual/static load per lane pair.

NOTE: If support beams are installed, they must be as straight as possible. Any variation in the support will affect overhead positioning.

46" WIDE SCREEN LCD MONITOR WITH FRAMEWORX LCD INTERFACE

All Scoring Systems

TOPVIEW